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(71) Applicant (*for all designated States except US*): THE REGENTS OF THE UNIVERSITY OF CALIFORNIA [US/US]; 1111 Franklin Street, 12th floor, Oakland, CA 94607-5200 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): CARTER, Emily, A. [US/US]; 1017 Lindenwood Lane, Los Angeles, CA 90049

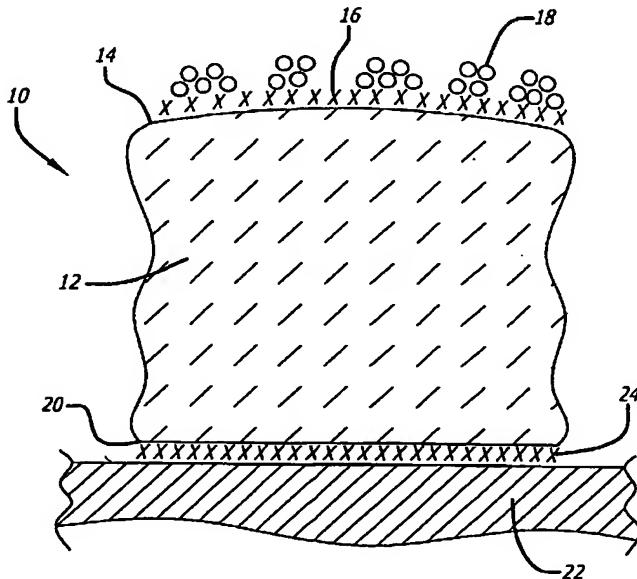
(74) Agent: OLDENKAMP, David, J.; Shapiro & Dupont LLP, Suite 700, 233 Wilshire Boulevard, Santa Monica, CA 90401 (US).

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(54) Title: SUPPORTED METAL CATALYST WITH IMPROVED THERMAL STABILITY



(57) Abstract: Catalytic systems are provided that include a metallic catalyst attached to a ceramic support that has alumina as a principal ingredient. The ceramic support is doped with an adhesive agent so that the surface of the support includes the adhesive agent. The adhesive agent is designed to form an open-shell electronic structure at the interface between the metallic catalyst and the support. The open-shell structure promotes extended useful catalyst lifetimes. The adhesive agents are early transition metals that include titanium, zirconium, scandium, hafnium, lanthanum and yttrium. Doping of the ceramic support surface with the adhesive agent also increases the adhesion between the ceramic support and metallic monoliths to which the ceramic support may be attached.

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